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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,434	09/11/2003	Hyung-Soo Kim	1349.1305	4095
21171	7590	10/06/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PHAN, JAMES	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,434	KIM, HYUNG-SOO	
	Examiner	Art Unit	
	James Phan	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,10,12,14-17,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3,4,8,9,11,13 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/11/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 9/11/03 has been considered by the examiner.

Claim Rejections - 35 USC § 112

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The feature recited in the claim is not understood because the ratio is a constant which does not have a unit while the focal distance has a unit.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ori.

Ori discloses a single collimating lens (3) having a refraction surface (RC4) on one side and a diffraction surface (RC5) on the other side (see Fig. 2) for preventing a power of the collimating lens change due to change in temperature (column 2, lines 44-49 and column 1, lines 34-41).

In re claim 16 see surface # 4 in Table 1.

Claims 14-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato. See Fig. 12 and the accompanying text.

In re claims 14-15 and 19 each of the limitations recited in these claims is clearly disclosed by Kato.

In re claim 16 the feature recited in this claim is inherently disclosed because it is well established that shape of a lens surface is a spherical surface unless it is specified otherwise.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 6-7, 10, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato.

Kato discloses an optical scanning apparatus for scanning a light beam on a photosensitive medium (8). The scanning apparatus comprises a single collimating lens (32) having a refraction surface (32a) on one side and a diffraction surface (32b) on the other side; a cylindrical lens (4); a light deflector (5); and an f-0 lens (76) (see Fig. 12 and the accompanying text). Kato does not specify the material of the collimating lens (32). However, it has been well established that plastic material is light in weight and lower cost than glass material. Thus, it would have been obvious to one skilled in the art

to use plastic material for forming the collimating lens in Kato in order to reduce weight and price of the collimating lens and thus, the optical scanning apparatus.

In re claim 10, as understood, each power of the refraction surface and the diffraction surface is defined as an reverse of its focal distance. This definition has been well established. Thus, the claimed feature does not distinguish from the collimating lens in Kato.

In re claim 17 it is well established that shape of a lens surface is a spherical surface unless it is specified otherwise.

Claims 1-2, 5-7, 10, 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ori.

Ori discloses an optical scanning apparatus for scanning a light beam on a photosensitive medium (7). The scanning apparatus comprises a single collimating lens (3) having a refraction surface (RC4) on one side and a diffraction surface (RC5) on the other side; a cylindrical lens (4); a light deflector (5); and an f-0 lens (6) (see Figs. 1-2 and the accompanying text). Ori does not specify the material of the collimating lens (3). However, it has been well established that plastic material is light in weight and lower cost than glass material. Thus, it would have been obvious to one skilled in the art to use plastic material for forming the collimating lens in Ori in order to reduce weight and price of the collimating lens and thus, the optical scanning apparatus.

In re claim 10, as understood, each power of the refraction surface and the diffraction surface is defined as an reverse of its focal distance. This definition has been

well established. Thus, the claimed feature does not distinguish from the collimating lens in Ori.

In re claim 12 see surface # 4 in Table 1.

In re claim 17 see surface # 4 in Table 1.

Allowable Subject Matter

Claims 3-4, 8-9, 11, 13 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the cited references teaches or fairly suggests the claimed invention having (1) a collimating lens which satisfies the condition defined in each of claims 3-4, 8-9, 13 and 18, and (2) a collimating lens wherein both the refraction surface and the diffraction surface are non-spherical surfaces as recited in claim 11, in combination with the remaining features recited in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Phan whose telephone number is (571) 272-2317. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phan, J.
9/30/04


James Phan
Primary Examiner